PRE-PROPOSAL CONFERENCE

RFP03-655236-16

A pre-proposal conference will be held on April 30, 2003, at 11:30 a.m. at the Fairfax County Government Center, 12000 Government Center parkway, Conference Rooms 9-10, Fairfax, Virginia 22035. All Offerors are urged to attend.

Design and Implementation of the Institutional Network Architecture

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DEPARTMENT OF PURCHASING & SUPPLY MANAGEMENT

12000 GOVERNMENT CENTER PARKWAY, SUITE 427 FAIRFAX, VIRGINIA 22035-0013

www.fairfaxcounty.gov/dpsm

VIRGINIA

TELEPHONE: (703) 324-3201 FAX: (703) 324-3223 TTY: 1-800-828-1140

ISSUE DATE: APRIL 15, 2003	REQUEST FOR PROP RFP03-655236-16	OSAL NUMBER:	FOR: Design Architecture	& Implementation of the Institutional Network	
AGENCY: DIT	DATE/TIME OF CLOSI MAY 21, 2003/3:00 P.M			DMINISTRATOR: Lonnette Robinson at 703- iil to lonnette.robinson@fairfaxcounty.gov	
noted, the undoprices are quot specified. It is the items or se NOTE: Fairfax Virginia, § 2.2-	ersigned offers and agree ed, at the price set oppositunderstood and agreed to rvices offered and accomposition. County does not discrimited 4343.1 or against a biddery other basis prohibited to the county does not discrimited to the county does not discrimited to the county of the	es, if the proposal is a site each item, delive that with respect to a apanying attachment attachment or offeror because	accepted, to furn ered or furnished Il terms and cond s shall constitute ased organization of race, religion,	and conditions, unless otherwise ish items or services for which to designated points within the time ditions accepted by Fairfax County a contract. It is in accordance with the Code of color, sex, national origin, age, in employment in the performance	
NAME AND ADD	RESS OF FIRM:	Telephone/Fax No.:		/	
		E	-Mail Address:		
		VA State Contra	actor's License No.:		
		Federal Socia	al Security No.:		
		Prompt Payr	ment Discount:	% for payment withindays/net days	
		Fairfax Lic	cense Tax No.:		
CHECK O	NE: INDIVIDU	St	RTNERSHIP tate in which corporated:	CORPORATION	
Vendor Lega	Ily Authorized		Date		

By signing this proposal, Offeror certifies, acknowledges, understands, and agrees to be bound by the conditions set forth in Paragraph 64 of the General Conditions and Instructions to Bidders, regarding financial disclosure requirements.

Secretary

Sealed proposals subject to terms and conditions of this Request for Proposal, will be received at 12000 Government Center Parkway, Suite 427, Fairfax, Virginia 22035 until time/date specified above for furnishing items or services delivered or furnished to specified destinations within the time specified or stipulated by the offeror.

AN EQUAL OPPORTUNITY PURCHASING ORGANIZATION

(DPSM32) (rev 2/02)

Signature

Print Name and Title

1.0 Scope of Contract/Introduction

The purpose of this Request for Proposal (RFP) is to enter into a contract with a firm that can provide a full end-to-end metropolitan area network (MAN) solution for Fairfax County Government and Schools. Throughout this RFP, Fairfax County Government will be referred to as "FCG" and Fairfax County Public Schools will be referred to as "FCPS". Fairfax County as a whole will be referred to as "County" and the MAN as a whole will be referred to as "I-Net". By definition, the Institutional Network (I-Net) is a dedicated fiber optic network for the Fairfax County Government and Public Schools, linking the County agencies, schools and non-county entities. Over 390 county and schools sites have been designated for the initial implementation of the I-Net.

The County is interested in a obtaining a detailed network design, of which the awarded contractor will be responsible for full implementation. The design will encompass voice, video and data technologies. The design is expected to cover, in great detail, equipment requirements and specifications, backbone and distribution technology, life cycle expectancies, system configuration, and network security for video, data, and voice. The design will take into account scalability, remote monitoring and access, protocols, failover and redundant links, and videoconferencing in addition to future technologies. The design will also be used to build separate but paralleled systems by County townships: Towns' of Vienna, Herndon and Clifton. The design may be used and implemented by the separate cities of Fairfax and Falls Church.

1.1 Overview

Fairfax County, Virginia is located in the northeast corner of Virginia and has an area of approximately 407 square miles and a population in excess of 1,000,000 people. Fairfax County is part of the Washington-Baltimore Consolidated Metropolitan Statistical Area (CMSA).

Fairfax County currently has two information technology groups: Department of Information Technology for government agencies (FCDIT), and Fairfax County Public Schools Department of Information Technology for schools and educational programs (PSDIT). Although the County and School have common points of connection, each department operates and maintains their network systems independently from the other. Each IT group is in the process of implementing an ATM wide area network (WAN) infrastructure utilizing firewalls, VLANS, network address translation and private network address space.

FCDIT provides voice, data, and Internet services to over 390 sites throughout the county as well as connections to other local and state governments over a WAN. Data links are provided through modem lines, ISDN, T-1s, Frame Relay, ATM, and dedicated leased lines (DS3, OC12) with Pix firewalls. Voice services are supported through PBX systems, key systems, and POTS lines. County personnel primarily maintain support for the voice and data networks, with assistance from private vendors.

PSDIT provides voice, data, and Internet services to over 200 sites throughout the county as well as connections to other entities over a Wide Area Network (WAN). Data links are provided through modem lines, T-1s, and dedicated leased lines (DS3, OC12) over ATM. Voice services are supported through PBX systems and POTS lines. School personnel primarily maintain LAN connectivity and utilize contractors for WAN connectivity.

Video is provided by the Communications Productions Division (CPD) and is for all county government agencies. Video production is completed on site and is transmitted over the current Institutional Cable Network (ICN) system for public display and Government training programs. Public Schools produce video programming for all school facilities. Programming includes distance learning, personnel training, school programs, and class instruction.

The current ICN system is supported over a coaxial cable system, providing video and some voice connections since 1984. All source video signals from multiple locations are routed to the Cox Communications, Inc. (CCI) head-end where it is distributed to the Home Subscriber Network (HSN), and government and school facilities. Voice circuits are operated on a point-to-point basis.

2.0 Submission of Proposal

One (1) original and ten (10) copies of the technical proposal and one (1) original and ten (10) copies of the cost proposal (duly marked) **must** be supplied, prior to the specified time and date, to the receptionist at the following address:

Fairfax County Government Center
Department of Purchasing and Supply Management
12000 Government Center Parkway, Suite 427
Fairfax, Virginia 22035-0013
Telephone: 703-324-3201

It is the Offeror's responsibility to clearly identify and to describe the services being offered in response to the Request for Proposal. Offerors are cautioned that organization of their response, as well as thoroughness is critical to the County's evaluation process. The RFP forms must be completed legibly and in their entirety; and all required supplemental information must be furnished and presented in an organized, comprehensive and easy to follow manner.

Unnecessary elaborate brochures of other presentations beyond that sufficient to present a complete and effective proposal is not desired. Elaborate artwork, expensive paper, bindings, visual and other presentation aids are not required. The County encourages Offeror's to use recycled paper, wherever possible.

Each original and a set of the ten (10) copies of the proposal **shall** consist of:

- Cover sheet (DPSM32), duly signed with the corporate seal impressed, if applicable.
- Technical proposal as required further in this document.
- Cost proposal as required further in this document.

By executing the cover sheet (DPSM32), the Offeror acknowledges that the Offeror has read this Request for Proposal, understands it, and agrees to be bound by its terms and conditions. Proposals may be submitted by mail or delivered in person.

2.1 Late Proposals

Proposals received in the Office of the County Purchasing Agent after the date and time prescribed shall not be considered for contract award and shall be returned to the offeror. Electronically stamped delivery receipts are available.

Please note: Security has been heightened at the Government Center. You may experience slight delays in entering government buildings, as well as being subject to screening of any items in your possession. Please take in account possible delays when submitting your proposals.

2.2 Point of Contact

Contact for contractual matters:

Lonnette Robinson, CPPB
Department of Purchasing and Supply Management
12000 Government Center Parkway, Suite 427
Fairfax, Virginia 22035
Phone: (703) 324-3281

Email: lonnette.robinson@fairfaxcounty.gov

Contact for technical matters:

Michael Palacios
Fairfax County Government
Department of Information Technology
12000 Government Center Parkway, Suite 367
Fairfax, Virginia 22035

<u>All Offerors should note</u> that Fairfax County originally intended to implement a design developed by Cisco in June 2000. Due to construction delays of the I-Net, Fairfax County is electing to take advantage of the available time to assure the latest available technologies and concepts are considered.

2.3 Instructions to Offerors

The minimum requirements for the company to design and implement the I-Net are:

- 1) Minimum of five years in existence
- 2) Demonstrated experience in LAN/WAN, I-Net, and audio/video design and configuration through previous projects
- 3) Training and certification of specified equipment for, at least, one full time employee assigned to the project
- 4) A fully functioning, staffed, and equipped Network Operations Center (NOC).
- 5) A fully functioning, staffed, and equipped test bench located within 60 miles of the Government Center in Fairfax, VA.

Each Offeror is required to demonstrate for the purpose of this RFP, their ability to:

- 1) Develop project plans/SOWs
- 2) Tracking of projects
- 3) Status reporting
- 4) Change management
- 5) Quality reviews
- 6) Resolution of questions and issues
- 7) Escalation procedures.

The Offeror is required to have significant experience in managing projects with the following characteristics:

"Tiger Team" Projects (Short, quick hitting projects that require significant network expertise).

- 1) Long-term projects (at least one year in duration).
- 2) Projects that included the type and variety of activities such as those described in this document.
- 3) Projects that involved the use of specific desktop and networking technologies currently available and planned at the County.
- 4) Projects in the public service arena.

2.4 Requests for Clarification or Additional Information

Questions regarding clarification of the contents of the Specifications will be accepted from the time of receipt of this document until April 25, 2003. After this date, the County cannot guarantee that responses will be completed in time before the due date. Questions **must** be sent in writing, e-mailed or faxed to Fairfax County POC, Lonnette Robinson. We respond to the questions via addendum. The County will not give answers, verbal or otherwise, to any inquiries outside the Pre-proposal Conference.

All requests for additional information or clarification of information in the Specification document **must** include:

- 1) The company name
- 2) Contact person's name and title
- 3) Contact person's business address and phone number
- 4) Clear and concise question(s)
- 5) References to specific points within the Specifications.

2.5 Pre-proposal Conference

A pre-proposal conference will be held on April 30, 2003 at 11:30 a.m. at the Fairfax County Government Center, 12000 Government Center Parkway, Rooms 9-10, Fairfax, Virginia 22035. Attendees requiring special services are asked to provide their requirements to the County one-week in advance to allow for accommodation.

The purpose of the pre-proposal conference is to give potential Offerors an opportunity to ask questions and to obtain clarification about any aspect of this Request for proposal.

2.6 Insurance

The Contractor will be responsible for its work and every part thereof, and for all materials, tools, equipment, appliances, and property of any and all description used in connection therewith whether owned by the contractor or by the County. The contractor assumes all risks of direct and indirect damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the contract, or in connection in any way whatsoever with the contracted work.

The Contractor shall, during the continuance of all work under the Contract provide the following:

- a. Maintain statutory Worker's Compensation and Employer's Liability insurance in limits of not less than \$100,000 to protect the Contractor from any liability or damages for any injuries (including death and disability) to any and all of its employees, volunteers, or subcontractors, including any and all liability or damage which may arise by virtue of any statute or law in force within the Commonwealth of Virginia, or which may be hereinafter enacted.
- b. The Contractor agrees to maintain Commercial General Liability insurance in the amount of \$1,000,000 per occurrence/aggregate, to protect the contractor, its subcontractors, and the interest of the County, against any and all injuries to third parties, including bodily injury and personal injury, wherever located, resulting from any action or operation under the contract or in connection with contracted work. The General Liability insurance shall also include the Broad Form Property Damage endorsement, in addition to coverage's for explosion, collapse, and underground hazards, where required.
- c. The Contractor agrees to maintain owned, non-owned, and hired Automobile Liability insurance, in the amount of \$1,000,000 per occurrence/aggregate, including property damage, covering all owned, non-owned borrowed, leased, or rented vehicles operated by the Contractor. In addition, all mobile equipment used by the Contractor in connection with the contracted work will be insured under either a standard Automobile Liability policy, or a Comprehensive General Liability policy.
- d. The Contractor agrees to maintain Professional Liability insurance in the amount of \$1,000,000 per occurrence/aggregate to cover each individual professional staff.
- e. Liability insurance may be arranged by General Liability and Automobile Liability policies for the full limits required, or by a combination of underlying Liability policies for lesser limits with the remaining limits provided by an Excess or Umbrella Liability policy.

f. Rating Requirements:

- 1. The Contractor agrees to provide insurance issued by companies admitted within the Commonwealth of Virginia, with the Best's Key Rating of at least A: VI.
- 2. European markets including those based in London, and the domestic surplus lines markets that operate on a non-admitted basis are exempt from this requirement provided that the contractor's broker can provide financial data to establish that a market is equal to or exceeds the financial strengths associated with the A.M. Best's rating of A:VI or better.

g. Indemnification:

Article 63 of the General Conditions and Instructions to Bidders (Appendix A) shall apply.

- h. The Contractor will provide an original, signed Certificate of Insurance and such endorsements as prescribed herein, and shall have it filed with the County Purchasing Agent and/or Risk Manager before any work is started.
- If the Contractor delivers services from a County-leased facility, the Contractor is required to carry property insurance on all equipment, to include County-owned installed and maintained equipment used by the contractor while in their care, custody and control for use under this contract.

No change, cancellation, or non-renewal shall be made in any insurance coverage without a <u>forty-five</u> day written notice to the County Purchasing Agent and/or Risk Manager. The Contractor shall furnish a new certificate prior to any change or cancellation date. The failure of the Contractor to deliver a new and valid certificate will result in suspension of all payments until the new certificate is furnished.

Precaution shall be exercised at all times for the protection of persons (including employees) and property.

The County of Fairfax, its employees and officers shall be named as an additional insured in the Automobile, General Liability and Professional Liability policies and it shall be stated on the Insurance Certificate with the provision that this coverage is primary to all other coverage the County may possess.

If an "ACORD" Insurance Certificate form is used by the Contractor's Insurance agent, the words, "endeavor to" and "... but failure to mail such notice shall impose no obligation or liability of any kind upon the company" in the "Cancellation" paragraph of the form shall be deleted or crossed out.

2.7 General Requirements/Evaluation Process

Mandatory requirements relating to the network infrastructure (equipment, software, Offeror services, and equipment warranty terms and conditions) are indicated by the term "must" or "shall". Refer to **Appendix C** for list of mandatory items.

Only Offerors that meet all mandatory requirements will be considered.

Each proposal will be evaluated to determine if the schematic design, selected products and/or services fully meets each mandatory requirement herein specified by the term "must" or "shall". The winning proposal will in general be that proposal which is the "best value", i.e., satisfies all County stipulated mandatory requirements with the best cost. The County reserves the right to select the solution which best meets the County's needs, regardless if the cost is in excess of the lowest Offeror.

2.7.1 Proposals for Interim Solutions

The County will not accept proposals with interim or partial solutions that do not address the architecture specified in this document in its entirety.

2.7.2 Customer Base and References

Offerors **must** be a registered business with Fairfax County with a Class B license and **must** have a Point of Presence within 60 miles of Fairfax County Government Center. Offerors **must** have engaged in business for a period of not less than five (5) years and **must** have at least five (5) comparable (size and complexity) network architectures in operational production, not including Alpha or Beta sites, for at least three (3) years prior to the closing date. Offerors **must** also provide in an attachment to their proposals the following information about each of the aforesaid sites, forms enclosed in **Appendix F**:

Company Name:

Address:

Contact Person Name and Title:

Contact Person Phone Number:

Equipment Installed:

2.7.3 Annual Report or Financial Statement

The successful Offeror **must** submit a current Annual Report and Financial Statement. If the Offeror desires that the entirety of such documents be kept confidential, it **must** clearly state on the cover or first page of each document. See paragraph 2.7.4, "Trade Secret".

2.7.4 Trade Secret

Trade secrets or proprietary information submitted by an offeror in connection with a procurement transaction shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, they must invoke the protections of this section prior to or upon submission of the data or other materials.

The Offeror must identify the data or other materials to be protected and state the reasons why protection is necessary. Disposition of material after award(s) is/are made should be stated by the offeror.

2.8 Method of Award

The County of Fairfax reserves the right to award the contract in the aggregate, by individual hardware/software, service, or any combination, whichever is in the best interest of the County.

2.8.1 Basis for Award

A Selection Advisory Committee has been established to review and evaluate all proposals submitted in response to this Request for Proposal. The Committee shall conduct a preliminary evaluation of all proposals on the basis of the information provided with the proposal, and the evaluation criteria listed below. Based upon this review, the business proposals of the highest rated Offeror(s) will then be reviewed.

Based on the results of the preliminary evaluation, the highest rated offeror(s) may be invited by the County Purchasing Agent to make oral presentations to the Selection Advisory Committee. This committee will then conduct a final evaluation of the proposals. The Selection Advisory Committee **shall** then negotiate a contract with the highest rated Offeror. At this time, the Offeror and the Selection Advisory Committee may negotiate any changes desired in the offer if deemed in the best interest of Fairfax County. If a satisfactory contract cannot be negotiated with the highest qualified Offeror, negotiations will be formally terminated. Negotiations **shall** then be undertaken with the second rated Offeror and so on. The committee will make appropriate recommendations to the County Executive and Board of Supervisors, if appropriate, prior to actual award of contract.

Fairfax County reserves the right to make on-site visitations to assess the capabilities of individual Offerors and to contact references provided with the proposal.

The County Purchasing Agent may arrange for discussions with firms submitting proposals, if required, for the purpose of obtaining additional information or clarification.

Offerors are advised that, in the event of receipt of an adequate number of proposals, which, in the opinion of the County Purchasing Agent, require no clarifications and/or supplementary information, such proposals may be evaluated without further discussion. Hence, proposals should be submitted initially on the most complete and favorable terms from a technical standpoint. Should proposals submitted require additional clarification and/or supplementary information, Offerors should be prepared to submit such additional clarification and/or supplementary information, in a timely manner, when so requested.

Proposals which, after discussion and submission of additional clarification and/or supplementary information, are determined to meet the specifications of this Request for Proposal will be classified as "acceptable". Proposals found not to be acceptable will be classified as "unacceptable" and no further discussion concerning same will be conducted.

2.8.2 Evaluation Criteria

Complete and accurate responses to all items are necessary for the complete and fair evaluation of proposals. In addition to the factors set out in Section 2, the award will be based on solutions which demonstrate verifiable compliance with mandatory requirements. Otherwise stated, the following factors will be considered in the award of this contract:

<u>COST</u>: A cost analysis will be conducted and will include all identifiable costs and timeframes associated with the project management, design, installation, operation and final disposition of the vendor's proposed equipment and services. The analysis will be based upon Offerors' proposal data, the evaluator's judgment, and cost factors that will be incurred by the County resulting from acceptance of the Offeror's proposal.

<u>DESIGN SCHEMATIC</u>: An analysis will be conducted on the preliminary design concept presented by the Offeror.

Note: Offerors may be granted preference based on having manufacturer certification by the equipment manufacturers for the equipment proposed.

- OFFEROR'S VIABILITY, REPUTATION AND EXPERIENCE: Evaluation of Offeror's viability, reputation and experience **shall** be based on the nature of company data furnished and the extent to which it can be verified, financial responsibility of the Offeror and the County's knowledge of the experience with the Offeror's past performance. The County reserves the right to contact referenced installations directly, as specified in Section 2.7.2, to verify the information supplied.
- <u>OTHER SERVICES</u>: Evaluation of other services will be based on the County's assessment of the Offeror's verifiable ability as a major vendor to supply other services such as network design, planning, testing, implementation, support, warranties, training and/or education.
- <u>PROJECT PLAN</u>: Analysis and evaluation of the Offeror's submitted project plan, based on provided timeframe, scheduling, and visionary of design, will have emphasis on overall scoring.
- <u>PROPOSAL FORMAT</u>: To fairly evaluate all proposals, the County is requesting a uniform format. Offerors **shall** provide a complete response, section by section, for these Specifications, beginning with Section 2. Offerors will also complete the appropriate Appendices as indicated in these instructions.

Example: Section 7, Subsection 7.2.2 of the proposal will correspond to Section 7, Subsection 7.2.2 of the Specifications.

- 1) The document **must** include the original Specification requirement with the Offeror's response stated in a style to set it off -- bold, Italics, separate column, etc.
- 2) The proposal **must** be presented in both electronic form and hard copy. The electronic proposal **must** be completed in Microsoft Word 2000.
- 3) Hard-copy proposals **must** be on 8 1/2 by 11-inch paper, single-sided and bound in loose-leaf binders. Elaborate brochures are not desired. Reproduced copies of standard manuals may not be substituted for the specific narratives and responses specified.
- 4) An electronic copy of the Specifications is enclosed with this document. This electronic copy will aid Offerors in the structure and form of the proposal.
- 5) The schematic design **must** be presented in both electronic form and hard copy. The electronic schematic design **must** be completed in Visio.
- 6) Hard-copy schematic designs **must** be on 8 1/2 by 11-inch paper, single-sided and bound in loose-leaf binders.

In sections 2, 3, 4, 6, 7, 8, 9, 10, 11, 12 and 13, the Offeror **must** indicate:

1) If Offeror accepts, which means that the subsection is understood and all provisions will be met, or

2) Offeror does not accept, which means that the subsection is understood, but the provision cannot or will not be met, in accordance with the terms specified in that section.

The uniform proposal **must** contain the following sections:

Section 1: Introduction

Cover letter Submit a cover letter on Offeror's company letterhead, signed by the responsible official in the Offeror's organization, certifying the accuracy of all information in the Offeror's proposal and that the proposal will remain valid for 120 days from the date it is submitted. (See Appendix A and B and complete Cover Letters).

Executive An executive summary of the Offeror's proposed solutions, covering the main features and benefits that distinguishes proposed hardware, software, and services, in non-technical terms. Include expected duration of design and implementation. Do not exceed three pages and do not include any price information in this section.

- Section 2: This section of the Specifications includes Instruction to Offerors. The Offeror must respond to Subsections 2.1 through 2.8.3 by stating the following: "We have read and understood the information presented in this section."
- Section 3: This section of the Specifications covers Terms and Conditions. Offeror **must** respond to Subsections 3.1 through 3.14 by stating the following: "We have read and understood the information presented in this section."
- <u>Section 4</u>: This section of the Specifications includes Software Licenses. Offeror **must** respond to Subsections 4.1 through 4.5.
- Section 5: This section of the Specifications includes the Existing Campus Environment and Network Infrastructure. Offerors **must** respond to Subsections 5.1 through 5.7.2 by stating the following: "We have read and understood the information presented in this section."
- Section 6: This section of the Specifications includes the Technical Requirements. Offeror **must** respond to each subsection of Sections 6.1 through 6.15.3. Offeror **must** provide cost and percentage discount for the equipment by completing appropriate forms in **Appendix D**.
- Section 7: This section of the Specifications includes the Offerors Point of Contact (OPOC) and Personal Consultative Service Requirements. Offeror **must** respond to each subsection of Sections 7.1 through 7.4. Offeror **must** provide capability statements for all levels of technicians being proposed, as well as the Per hour cost for the personnel levels by completing appropriate forms in **Appendix D.**
- Section 8: This section of the Specifications includes Delivery, Installation, Testing, Payment and General Information. Offeror **must** respond to each subsection of Sections 8.1 through 8.7.

- Section 9: This section of the Specifications includes Warranties, Support and Maintenance. Offeror **must** respond to each subsection of Sections 9.1 through 9.2 and by completing appropriate forms in **Appendix D.**
- Section 10: This section of the Specifications includes Training and Enhancement. Offeror must respond to each subsection of Sections 10.1 and 10.2. Also, as required by Subsection 10.1.1, Offeror must provide a training plan. Offeror will complete the Corporate Viability Forms, Appendix E.
- Section 11: This section of the Specifications includes Software Licenses. Offeror **must** respond to Subsections 11.1 through 11.2 by stating the following: "We have read and understood the information presented in this section."
- Section 12: This section of the Specifications includes Software Licenses. Offeror **must** respond to Subsections 12.1 through 12.3 by stating the following: "We have read and understood the information presented in this section."
- Section 13: This section of the Specifications includes Software Licenses. Offeror **must** respond to Subsections 13.1 through 13.1.7 by stating the following: "We have read and understood the information presented in this section."
- Appendix 1: This appendix of the proposal **must** include all pages of the **Table of Conformance, Appendix C** from the Specifications. Offeror **must** complete all forms with the required information.
- Appendix 2: This appendix of the proposal **must** include the Forms from **Appendix D and E** from the Specifications. Offeror **must** complete these forms with the required information.
- <u>Appendix 3:</u> This appendix **must** be used to include brochures, manuals and technical information for proposed equipment.

NOTE: NO PRICING INFORMATION SHALL BE CONTAINED WITHIN THE TECHNICAL PROPOSAL RESPONSE DOCUMENT, SECTIONS 1 THROUGH 13.

2.8.3 Cost Proposal Section Instructions

The Offeror, at a minimum, **must** submit a cost proposal in a separate binder fully supported by cost and pricing data adequate to establish the reasonableness of the proposed fee. Appendix B **must** be used in summarizing the business proposal, with adequate back-up detail to verify the proposed fee. The following information should be submitted as part of the business proposal:

- A) The cost of each task or segment of the task **shall** be itemized.
- B) Offerors **must** provide a price breakdown for each service separately as well as totals for services provided together if price differ.
- C) Travel and per diem or subsistence costs, if any supported by breakdown including destination, duration and purpose.
- D) Breakdown of other expenses such as clerical support, other overhead costs, supplies, etceteras.

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- E) The Offeror **shall** submit two forms of price quotes in the pricing sheets for hardware and software; a direct purchase option and a leasing option. All quotes **shall** include all efforts required to complete the design, installation, and maintenance of the system. The I-Net Team will evaluate all quotes for the best return on investment.
 - 1) Direct Purchase The quotes must be the vendor's hardware and software price to the County and must provide for purchase of the hardware and software from the vendor(s) DIRECTLY. Each hardware component shall be broken down into a cost per port and software packages shall be broken down into a cost per user, if applicable.
 - 2) Leasing The quotes must be the vendor's hardware and software price to the County and must provide for lease of the hardware or software from the vendor(s) DIRECTLY. Each hardware component shall be broken down into a cost per port and software packages shall be broken down into a cost per user, if applicable. The lease shall be composed in a manner that provides an option for the County to transfer the lease agreement to a certified service provider upon written request and any cost associated with the transfer.

Inclusion of pricing sheets as identified in **Appendix F**. Each Offeror should note the percentage discount being applied to each line item of their proposal.

3.0 Terms and Conditions

3.1 Revisions

If the County should find it necessary to revise any part of these specifications, a written addendum will be prepared and sent to the Offerors who received the original document.

3.2 Errors or Omissions

Offerors will not be allowed to take advantage of errors or omissions in the specifications. If errors or omissions are found in the Specifications, a written note should be sent promptly to the County's Point of Contact (POC) specified in Section 2.1.

3.3 Contract Period

The contract period **shall** be from date of award and terminate thirty-six (36) months thereafter.

An important purpose of the contract is to establish a time period during which the equipment and services proposed in the proposal, as well as equipment support, consulting, maintenance, warranty, upgrades and features to any such equipment or additional equipment as is contemplated in the specifications of the type and models proposed, may be ordered in accordance with these specifications, and at the prices quoted on the proposal form.

Acceptance of the proposed hardware and software represents current County network standards. The County reserves the right to modify its standards based on need, and if so, will notify successful Offeror(s) of the new requirements. Also, this contract is intended to enable the County to buy up-to-date product models, versions, and releases. Therefore, vendors **must** notify the County in advance of such changes to modify the existing contract.

Any contract awarded pursuant to this Request for Proposal is conditioned upon an annual appropriation made by the Fairfax County Board of Supervisors of funds sufficient to pay compensation due the Contractor under the contract. The contract will provide that if such an appropriation is not made in any fiscal year, and the County lacks funds from other sources to pay the compensation due under the contract, the County will be entitled, at the beginning of or during such fiscal year, to terminate the contract. In that event, the County will not be obligated to make any payments under the contract beyond the amount properly appropriated for contract payments in the immediate prior fiscal year. The County will provide the Contractor with written notice of contract termination due to the non-appropriation of funds at least thirty (30) calendar days before the effective date of the termination. However, the County's failure to provide such notice will not extend the contract into a fiscal year in which funds for contract payments have not been appropriated.

3.4 Contract Extensions

The contract period may be extended for up to two (2) additional twelve (12) month periods with the consent of both the County and the Offeror, during which time additional equipment of the type and models proposed, upgrades and features may be ordered. Independent of the contract extension for the ordering of the aforesaid products, the County **shall** have the right to extend the Thirty-six (36) month maintenance period (as hereinafter provided) for up to two (2) additional twelve (12) month periods, whether or not the Offeror consents to the aforesaid product ordering extension period.

The thirty-six (36) month maintenance period **shall not** be extended with any product-ordering extension unless the County specifically requests a maintenance period extension. If the County desires to so extend, the Purchasing Agent will so advise the Offeror prior to expiration of the contract, maintenance period or relevant extension period.

If extended, the original terms and conditions, (except insofar as such prices that may be changed as allowed in the specifications and with the exception of the maintenance, support provisions unless a maintenance/support extension is specifically requested as aforesaid) **shall** remain in effect, provided that if a maintenance extension is requested and a product-ordering extension is not, the terms and conditions relating to such products will not be in effect, but said terms and conditions will continue to apply to the maintenance, support provisions together with all other relevant terms and conditions, including but not limited to the County's remedies and the Offeror's indemnity obligations.

3.5 Pricing and Costs

Offerors **must** indicate on the enclosed proposal form the price for the equipment (hardware and software); including annual equipment maintenance, warranties, network support charges, shipping and any other costs to be incurred by Fairfax County.

Offerors **must** specify in the proposal the price for each item to be charged to the County.

The County is interested in the lowest price option. Therefore, Offerors are requested to provide Fairfax County with GSA or better pricing discounts, if available, and if it results in a lower price offered to Fairfax County. The County will be offered other pricing discounts equal to or in excess of "GSA Pricing" as may be available through other vendor pricing policies with the Commonwealth of Virginia or other local jurisdictions contracts.

Offerors will reflect on the appropriate enclosed proposal the rate of discount to be applied against all hardware, software, and/or services proposed.

NOTE: NO PRICING INFORMATION SHALL BE CONTAINED WITHIN THE TECHNICAL PROPOSAL RESPONSE DOCUMENT, SECTIONS 1-13.

3.6 Price Changes

Price increases **shall** be allowed only in accordance with this section. The method for price adjustment is as follows:

Offerors **shall** submit a proposal for all prices through the first twelve (12) months of the contract, except for hardware and software support, installation and turn-up, and maintenance during warranty period.

Support, installation and turn-up, and warranty maintenance prices are to be held firm throughout the thirty-six (36) month period at the price quoted in the Offeror's proposal.

At the end of the first contract year, quoted prices for items (other than equipment installation and maintenance warranty and software support/maintenance), may be adjusted by the contractor. Any price increase **shall** be adjusted only in the manner provided in this Section.

After any price increase, as herein provided, the new price is then firm for an additional twelve months, after which time the price may be adjusted again, following the same procedure and thereafter throughout the contract period.

The County is always interested in the lowest price option. Therefore any price decreases for either equipment or services will immediately be transferred to the County and become effective retroactively to the date the Offeror made the price decrease.

The price increases will be evaluated by:

The percentage change -- as applied to the relevant twelve-month period -- in the "Implicit Price Deflator for Government Purchases of Goods and Services by Type" for durable goods and/or services as published in the Survey of Current Business by the United States Department of Commerce, Bureau of Economic Analysis. The cost is established by computing the difference between the index value of the quarter nearest to the last month of the twelve-month period immediately preceding the relevant twelve-month period and the Index value of the First Quarter 2000 (the base period).

Price increases may not be more than the percentage change as determined in the preceding paragraph above.

The County **must** receive at least a thirty (30) day written notice prior to any price increase. Additionally, all items proposed by the successful Offeror **shall** be included in any notification, regardless of whether or not there is any price change.

Nothing in the above is to be construed as restricting the vendor for charging a lesser price than the current price of any item after award, or from charging a lesser price than the price increase permitted under the aforesaid sections.

3.7 Additional Models, Upgrades and Features

The County reserves the right to place orders for additional models/versions, upgrades and features originally proposed or announced during the contract period. The County reserves the right to receive optional enhancements to the equipment under the contract. The County reserves the right after award to substitute software or hardware that is in the County's best interest.

3.8 Performance Bonding

The County requires a performance bond, which will be for the amount of the accepted proposal, and will be maintained throughout the warranty period. The bond will be required 20 days after award of contract.

3.9 Designated Offeror's Point of Contact (OPOC)

Offeror **shall** designate from the company a Point of Contact. The OPOC **shall** be the single point of contact for this procurement effort and **shall** be accountable and directly accessible to the County as a single point of contact regarding the performance, progress and completion of all phases of this project.

Specifically, the OPOC **shall** oversee this contract on behalf of the Offeror for the following responsibilities: implementation schedules; the quality of workmanship in installation, if required, quality of all hardware and software, training, consultant services and warranty and postwarranty support. The County has the right to request a new OPOC from the Offeror, if the County and the Offeror agree that the current OPOC is not providing acceptable service. The OPOC **must** have clear reporting lines as well as well-defined span of control and responsibilities for the success of this contract.

3.10 Physical Security

All vendor personnel and contracted personnel **shall** contact and cooperate with the County's and School's Department of Information Technology, and Data Communications Services Branch management when access to secured areas is required. Examples of secured areas include FCG and FCPS Data Centers and Network Centers, wiring closets, remote offices and certain other secured areas of the County.

3.11 Technical Assistance

The Offeror **shall** provide necessary engineering or factory technical assistance required by the County for proper operation of the Offeror's equipment during the installation, training, acceptance and warranty periods specified in the document, and any maintenance periods and future projects contracted.

3.12 Resolution of Questions and Issues

Except as otherwise provided in this document or the contract, the I-Net Manager in consonance with Fairfax County's Purchasing Department **shall** be responsible for deciding all questions and issues, which arise with respect to interpretation of equipment requirements and documentation. Resolution of such questions and issues **shall** be final and **shall** be furnished to the Offeror in writing via addendum. The Offeror **shall** proceed with non-affected tasks pending the I-Net Manager's decision.

3.13 Subcontracting

If one or more subcontractors are required, the contractor is encouraged to utilize small, minority-owned, and women-owned business enterprises. A listing of registered firms by relevant trades or specialties is available on the Department of Purchasing and Supply Management website. In addition, a listing of local, state and federal sites as well as proprietary business data providers may be obtained from the Fairfax County Economic Development Authority website, under the Business Database Resources link: http://www.fairfaxcountyeda.org/

Upon award of contract, the prime contractor agrees to make maximum effort to provide the names and addresses of each subcontractor, that subcontractor's status as defined by Fairfax County as a small, minority-owned, and/or woman-owned business, and the type and dollar value of the subcontracted goods/services provided. (Reference Appendix B)

4.0 Software Licenses

4.1 Software Elements

Offerors **must** provide all software elements, licensing information, costs, and agreements for all developed and third party software, used in their proposal submission.

4.2 Future Software Upgrades Delivery

The information **must** describe how the offeror will price, deliver and install future software upgrades for both Offerors' and third-party software.

4.3 Non-titled Perpetual Software Licenses

Notwithstanding any provision of the herein Standard Terms and Conditions, the County does not seek to obtain title to software, which is proposed. It is, however, the intention of this acquisition to obtain all necessary software licenses.

By submitting a proposal, Offerors agree that upon award, the County will automatically obtain a perpetual, nontransferable (except as specifically provided herein), and non-exclusive license to use all of the successful Offeror's software which is acquired as the result of these specifications, including all documentation comprising the same. No further license fees or expenses **shall** be charged to the County for current and/or future use of such software, documentation, etc., except for support and maintenance charges after any warranty period as herein provided.

4.4 Software Upgrade License and Documentation

The license granted through these specifications **shall** include, in addition to its description herein or in any documents furnished to the County, any improvements, additions or modifications of the version or versions of the software which the Offeror licenses to the County, as well as all materials, documentation and technical information provided to the County in written form and identified in any document furnished to the County. The County **shall** have the right, as part of the license obtained through these specifications, to make as many copies of the documentation for its own use as it may determine to be needed.

4.5 Title (Software)

If Offeror intends that the County acquire title to any software, document, etc., Offeror **must** specifically so state in its proposal. In such case, upon passage of title to the County, the County **shall** own and possess all rights and interest in such software, documentation, etc. Accordingly, the provisions herein relating to confidentiality or proprietary notice **shall not** be applicable to such software, documentation, etc.

5.0 Existing Campus Environment and Network Infrastructure

Although modernization of the County's data communications network infrastructure is only one of the County's many IT projects, it is arguably a project which will have the most impact on the County's ability to meet its business goals.

5.1 Background

Information exchange via information systems is integral to the County's operation. The County is currently upgrading its networking infrastructure to accommodate existing investments in applications, desktop PCs, workstations, file servers, mainframe systems and local and wide area networks (LAN/WANs), while introducing high-speed technology to support various backbone network connections. These backbone network connections include workgroup-to-workgroup (LAN segments) interconnections, intra-building (floors) interconnections, and campus (buildings) interconnections.

It is the County's intention to have this infrastructure transport a variety of voice, data and multimedia traffic. Although the County currently has multiple workstations and departmental systems throughout the County networked via LANs, LAN to LAN and LAN to WAN, there are some independent networks that are not connected.

Individual LAN segments constitute the basic building blocks of the current network architecture. Currently, the County is migrating away from segmentation towards Virtual LANs that serve specific geographical boundaries, such as a floor, area of a floor, multiple floors, etc., or In some cases specific vertical application oriented needs, such as finance, personnel, etc.

5.1.1 FCG and FCPS Connectivity

As part of the modernization effort and to ensure the network infrastructure will meet future system needs, FCG has replaced its shared token ring structure to a switched Ethernet architecture, rewiring building complexes, and upgrading FCG's WAN. FCPS has replaced its SMDS WAN with an ATM WAN infrastructure. These conversions permit tremendous growth in bandwidth availability and some significant cost savings through standardization with industry trends.

The County networks support an excess of 70,000 nodes. Any respondent's proposed I-Net equipment **must** be able to concurrently interface with the ATM network. The I-Net **must** provide a high speed, redundant and resilient "pipeline" that will support all existing and future automation applications.

5.2 Technology Goals/Objectives

Modernization of the County's network is necessarily an ongoing and evolving process. As industry standards and system requirements change, the network capacity and configuration **must** do so as well. In general, the objectives of network modernization are to:

- Facilitate the utilization of proven advanced technologies to streamline business processes, take advantage of economies of scale, enhance operational efficiency, leverage existing resources and reduce costs;
- 2) Promote decentralized computing and data management to ensure that the information technology infrastructure serves the needs of the agencies and advances improvements in service delivery to the citizens; and
- 3) Maintain flexibility and scalability to adopt new technology as it becomes available and its applications to County operations are identified.

5.3 Current Environment and Infrastructure

An optimum enterprise network architecture solution can only be achieved through a defined set of requirements. The foundation to understanding the County's requirements, which addresses present and future networking needs, is a clear understanding of the existing network environment and infrastructure. This section is intended to provide a description of the existing environment and infrastructure.

5.4 Network Overview

In terms of the size of each site, Government and Schools vary in respect to number of connected workstations and peripherals. The following figures pose as a general guideline per site, and are not exact, for the purpose of planning and design.

FCG Overview

	<u>Sites</u>	Data Conn.	Voice Conn.	Video Conn.
Campus Environment Regional Sites Large Sites Medium Sites Small Sites	2 5 10 53 225	2500-6000 300-500 50-299 10-49	2500-6000 300-500 50-299 10-49	>200 50-100 10-49 <9 0
Official Office	220	10	~ 0	O

FCPS Overview

5.5 Existing Network Infrastructure/Telecommunications Closets & Wiring Plant

The County has or is currently deploying a structural wiring system in all facilities in which the County conducts business. A number of the main campus buildings are cabled with IBM Type 1 and use impedance matching devices to translate wiring into UTP. Most other sites and future station cabling to the offices and cubicles will utilize Category 5e cable and pin-outs, which conform to the ANSI-EIA/TIA standards at the wall jack and patch panel. Station cables terminate inside their respective (serving) closets.

The majority of the facilities use RG-59 cabling infrastructure for the distribution of cable programs to television units.

5.6 Existing Network Segmentation

The departments at the County, in many cases, function across floor and sometimes building boundaries. This structure for departmental logistics drives County's network architecture toward a shared-segment structure, while a given segment will carry multiple departmental traffic, as well as protocols. The County has replaced its Token Ring environment with switched 10/100 Base Ethernet.

5.7 Existing Communications Capabilities

5.7.1 Voice and Data

A) FCG and FCPS manage data and voice systems separately from each other with the technology and telephony departments.

- B) Wide area data and Internet connections are accomplished through the local telephone service provider utilizing a number of transportation technologies. Access to the Internet is provided at the respective centers for the County and Schools: Fairfax County Government Center and Wilton Woods. The exception is with county libraries and schools, which provide Internet access to the public and students by way of designated T1 lines.
- C) Voice systems primarily use T1 circuits. Local Area Networks (LANs) are built on Ethernet technology for both County and Schools.

D) Fairfax County Government

- 1) Data
- a) The County relies on a wide range of connectivity for the WAN. Presently, the County accesses ATM, T1 and T3, Frame Relay, and ISDN-BRI/PRI for WAN connectivity. Small sites connect to the network through 56K dialup.
- b) Cisco PIX are used for network firewalls and are maintained by the DIT group.
- c) LAN/WAN protocols used on the County network are:
 - 1) Transmission Control Protocol/Internet Protocol (TCP/IP)
 - 2) Internet Packet Exchange/System Packet Exchange (IPX/SPX)
 - 3) SNA/3270
 - 4) Simple Network Management Protocol (SNMP)
 - 5) Enhanced Internet Gateway Routing Protocol (EIGRP)
 - 6) Open Shortest Path First (OSPF)
 - 7) Routing Internet Protocol (RIP)
- d) Disaster recovery is provided through a third party, located in Philadelphia, PA., over two T1 circuits.

2) Voice

- a) The voice systems used in FCG vary depending upon the size and agency being supported. The type of systems includes 1A2 key, hybrid, key systems, and private branch exchanges (PBX).
- b) Circuits in use range from T1 for larger offices to POTS lines for the smaller government locations.
- c) Although there have been test sights set up for VoIP, there are no County sites currently using VoIP technology.

E) Fairfax County Public Schools

- 1) Data
- a) T1 circuits provide WAN connectivity for all School sites with the exception of high and middle schools, which use DS3. Typically, the circuits and WAN equipment are maintained by the local telephony service provider along with the schools DIT personnel. Each site uses a variety of vendors' hubs and switches for the LAN and are supported by the DIT group.
- b) FCPS uses logical separation of FCPS personnel and student network access. Currently, there are no plans for physical separation.
- c) Cisco PIX are used for network firewalls and are maintained by the DIT group.
- d) LAN/WAN protocols used on the schools network are:
 - 1) Transmission Control Protocol/Internet Protocol (TCP/IP)
 - 2) Simple Network Management Protocol (SNMP)
 - 3) Open Shortest Path First (OSPF)

- e) System recovery is provided from two locations:
 - 1) The Chapel Square site provides routing and DNS backup to the primary system.
 - 2) A third party provides disaster recovery, located in Philadelphia, PA., connected via OC3
- 2) Voice
 - a) All voice connections are set up with T1 circuits and typically use Mitel PBX for voice services.
- b) VoIP has been implemented in a number of School sites, and plans for expansion are in progress.

5.7.2 Audio and Video

- A) FCG and FCPS separately produce and transmit their own high quality audio and video material to meet RS-250-B (FCPS also follows ITU BT.601-5 digital standards) video quality and IEEE audio quality standards. Both groups transmit in NTSC format over the existing coaxial ICN infrastructure to Cox's headend, where the RF signals are retransmitted throughout the county over the coaxial cable system. County channels are transmitted from the Fairfax County Government Center, and Fairfax County School channels are transmitted from the Chapel Square Center.
- B) Fairfax County Government Existing channels:
 - Channel 16 (174 MHz) 24-hours of open audio and video retransmitted on HSN for public viewing. Provides County citizens with government services information, emergency information, and public safety information. Also provides live feeds from Government and School locations.
 - 2) Channel 41 (162 MHz) 24-hours of encrypted audio and video retransmitted on HSN. Provides County employees with video training, interactive teleconferences and telecourses.
 - Channel 44 (Modem) 24-hours of videotext for County libraries retransmitted on HSN.
 - 4) Two other public channels not yet activated.
 - 5) For audio and video signals generated at remote sites and transmitted back to the Government Center, either channel 16 or 41 is manually turned off at the center to receive the transmitted signal from the remote location.
 - 6) Satellite downlink of teleconferences and telecourses on internal channels 37 (300 MHz) and 38 (306 MHz) to Fairfax County Government Center, transported over the ICN.
 - 7) Disaster Operations Center (DOC) has an auto-switched override capability to interrupt channel 16 for transmission for emergency audio and video messages over the existing ICN
 - 8) Audio and video feeds from the County Helicopter via Microwave to the public safety center roof top receiver and then fed to the DOC over the ICN.
 - 9) Other requirements include: videoconferencing, multicasting, KIOSK/IVR, and telecourses all which require distribution to the desktop. Refer to **Appendix I**.
- C) Fairfax County Public Schools Existing channels:
 - 1) Channel 11 (126MHz) 24-hours of open audio and video on the HSN for public viewing. By, for, and about teachers and emphasizes professional development.
 - 2) Channel 21 (138MHz) 24-hours of open audio and video retransmitted on HSN for public viewing. Tells about FCPS and includes news, information about the curriculum, School Board meetings, and emergency messages.
 - 3) Channel 25 (162MHz) 24-hours of open audio and video retransmitted on HSN for public viewing. Provides enrichment and instruction for children and adults.

- 4) Channel 13 (198MHz) 24-hours of encrypted audio and video retransmitted on HSN. Provides in-class video instruction.
- 5) Channel 39 (210MHz) 24-hours of encrypted audio and video retransmitted on HSN. Carries FCPS' electronic classroom courses.
- 6) Channel 42 (186MHz) 24-hours of encrypted audio and video retransmitted on HSN. Administrative exchanges and supplemental programs.
- 7) Office of Community Relations (OCR) has two redundant, auto-switched, override systems to interrupt channel 21 for transmission of emergency video messages over the existing ICN.
- 8) Satellite uplink providing programs to locations within the county and throughout North America, utilizing transport services via optical fiber link.
- 9) One private link (186MHz) for School meetings routed from Luther Jackson Middle School (as well as other FCPS sites) to Cox's headend, and then to Chapel Square Center.
- 10) One link from Falls Church High School (210MHz) to Chapel Square Center.
- 11) One countywide link (126MHz) reserved for occasional use.
- 12) Three primary simultaneous upstream transmissions, at broadcast quality, from remote locations, as well as most other school locations, to the Chapel Square Center over the ICN
- 13) Other video requirements include: Videoconferencing, compliant with H.320 and H.323; Distance/distributive learning classrooms; IP digital videoconferencing with applications to the desktop; and interactive digital video workstations. Implementation of these applications began in 2002 and is projected through 2006. Refer to **Appendix J**.
- D) County and Schools have mobile vans equipped for remote audio and video transmission of events. Most County and School sites have been designed with designated ports to accommodate these remote transmissions. These signals are transmitted back to Cox's headend over the ICN.
- E) Through a separate franchise agreement, Cox and Comcast provide an ICN link into the Reston, VA area for county and school use.
- F) All County and School sites distribute audio and video signals over existing RG-59 infrastructure. Category 5 cabling is mostly used for data drops, or Category 5e for new installations.

6.0 Technical Requirements

6.1 General Overview of Technical Requirements

The I-Net will allow the transmission and reception of video, voice, and data signals for the use of county and school agencies. Single mode optical fiber cable connects all hubs and nodes on the MAN. There are seven hubs designed in the backbone, with each hub connected by fiber cables. Each cable consists of 16 strands of fiber optics. The hub sites are connected in a physical ring and will serve the nodes in a star topology. Refer to **Appendix H** for graphic overview.

Most of the nodes will receive one 6 strand fiber optic cable with the exception of three sites where 12 strands are installed. The nodes are connected in a star topology that range from 2km to 20km.

6.2 The New Institutional Network Architecture Project Objectives

The project's main objective is a design detailing equipment requirements, backbone and distribution technology, life cycle expectancies, system configuration, network security for video, data, and voice within budget and time frame. The design will take into account scalability, remote monitoring, protocols, dial-up access, and videoconferencing in addition to future technology. The design will also be used to build separate, but paralleled systems by County townships: Towns' of Vienna, Herndon, Clifton and cities of Fairfax and Falls Church. The target objectives of the initiative of this project are to:

- 1) Create a seamless county network-computing infrastructure
- 2) Position the network to handle greater bandwidth requirements
- 3) Preserve the existing network investment and services
- 4) Have the ability to exploit new technology and services
- 5) Broaden the range of services to our customers

Equipment implementation **shall** encompass the entire I-Net system involving a strategy that will eliminate, or at least minimize, network interruptions and downtime, and maintain the schedule set by the I-Net Team and the contractor.

6.3 Design Objectives

Every aspect of the design must accommodate, on a single I-Net network, the unique requirements of Fairfax County Government and Fairfax County Public Schools as it relates to network policies, security policies, and network services to include, but not limited to, video, voice, and data.

The design will incorporate, in priority, video, data, and voice signals in accordance with industry standards and the I-Net Team requirements. The contractor **shall** produce periodic submittals to the I-Net Team that will be reviewed and returned with comments (if any) for adherence to project requirements. All final documentation **shall** be submitted in hardcopy, and in softcopy on CD. Written documentation **shall** be in MS Word 2000, spreadsheets **shall** be in MS Excel 2000, project management documents **shall** be in MS Project 2000. Graphical documentation **shall** be in Visio 2000. Equipment specifications **shall** be written per the Construction Specifications Institute (CSI) format, MasterSpec.

FCG and FCPS have a tremendous investment in hardware, software and training in the existing platform, and are familiar to the corresponding supporting agencies and the end users as well. In the best interest of the County, the contractor **shall** design the I-Net to be compatible with the existing infrastructure and replace existing equipment when proven feasible and practical.

6.3.1 Concept and Exploration Phase

The I-Net contractor is required to support parallel, short-term studies by the I-Net Team, focusing on defining and evaluating the feasibility of alternative concepts and providing the basis for assessing the relative merits of the concepts. The objective of the Contractor is to support the I-Net Team in attaining the following criteria:

- Identify and prioritize functional requirements;
- Explore various alternatives to satisfying the documented mission need;
- Define the most promising system concept(s), including the use of existing system components;
- Develop supporting analyses and information to include identifying high risk areas and risk management approaches to support the project;
- Develop a proposed acquisition strategy and initial program objectives for cost, schedule, and performance for the most promising system concept(s).

6.3.2 Pre-design Phase

Provide and perform the following:

- The I-Net Contractor is required to support multiple design approaches and parallel technologies within the system concepts developed in the concept phase;
- Better define the critical design characteristics and expected capabilities of the system concept(s);
- Demonstrate that the technologies critical to the most promising concept(s) can be incorporated into system design(s) with confidence;
- Prove that the processes critical to the most promising system concept(s) are understood and attainable:
- Establish a proposed Development Baseline containing refined program cost, schedule, and performance objectives for the most promising design approach.
- Proof of concept in lab.

6.3.3 Engineering and Development Phase

Support the I-Net Team in obtaining the following objectives:

- Translate the most promising design approach developed in Phase II into a stable, producible, implacable, and cost effective system design;
- Validate design objectives, installation processes and milestones, and phases for site upgrades.
- Standardize the equipment requirements of site nodes for the application towards future sites
- Demonstrate through testing and calculations that the system capabilities can meet contract specification requirements, and satisfy the mission need and meet minimum acceptable operational performance requirements.

6.4 Implementation Objectives

Equipment implementation **shall** encompass the entire I-Net system involving a strategy that will eliminate, or at least minimize, network interruptions and downtime, and maintain the schedule set by the I-Net Team and the contractor.

The implementation relates to a complete, fully functioning I-Net system. This includes the configuration and installation of:

- All video, data and voice components
- All network security components
- All software applications
- Connecting and patching equipment

6.4.1 Pre-Implementation Phase

All County and School sites **must** be coordinated and scheduled prior to implementing any equipment in the designated sites. Considerations for site schedules are:

- A) Critical Sites Such sites as Police, Fire and Rescue (24/7 operation), and computer centers must maintain connectivity throughout the entire implementation phase.
- B) Non Critical Sites Sites that will not threaten the safety of the public if communication is inhibited.
- C) Disaster Recovery Plan for a failover back to the existing network connection if the implemented equipment fails to provide connectivity within the allotted time.
- D) Time Allotment Provide a time frame for new connectivity to be successfully operational.
- E) Hours of Operation Each site varies in terms of required network connectivity. Verify each sites requirement for access to the network and business hours. This may require time outside business hours such as schools, and point-of-sale sites.
- F) Blackout Periods No work will be performed during blackout periods. For Schools, this period is two weeks before and two weeks after the school year. Paydays will be blackout periods for both County and Schools, which are every other Friday.
- G) Prime Time Following is a list of prime scheduling periods for certain agencies:
 - 1) Schools Evenings, weekends, holidays
 - 2) Board of Supervisors Evenings, weekends, holidays
 - 3) Massey Campus -6:00PM-10:00PM Monday-Thursday
 - 4) Fire and Life Safety During non-emergency times and not during shift changes
 - 5) Libraries 7:00AM-10:00AM Monday-Friday
 - 6) Parks (Historic/Nature) Tuesdays
 - 7) Point-of-Sale Sites (Parks/RecCenters) After business hours
 - 8) Facility Management 7:00AM-3:30PM Monday-Friday

6.4.2 Implementation Phase

Implementation **shall** commence on a per hub site basis. All sites supported from a hub site **shall** follow with equipment implementation. To prevent minimal disturbance to network connectivity, the following timeframes **shall** be followed as the maximum allowable downtime per site during this phase:

During Work Hours:

- Non-critical -- 1.0 Hr.
- Critical -- 0.5 Hr.

During Non-Work Hours:

- Schools -- 5:00PM-12:00AM (Schools In)/8:00AM-5:00PM (Summer Vacation)
- Non-Critical -- 5:00PM-12:00AM

Each sites' primary contact will have notification of I-Net installations, but the I-Net Manager shall have the final approval for installation and implementation.

6.5 Institutional Network Infrastructure Requirements

The I-Net system will be capable of handling multiple protocols and applications such as videoconferencing, distance learning, voice over IP (VoIP), and circuit emulation. Non-OEM equipment, hardware and software, will not be considered for the final design solution for the I-Net.

Scalability is a major factor for future node additions that are not scheduled or planned for the initial implementation of the system. Potentially, all County sites could be connected to the I-Net, but not necessarily over optical fiber cable. Thus, a system is required that is diverse and robust in design to handle future physical and technological expansion.

The security of the I-Net system will utilize today's proven security protocols and management systems to protect all vulnerable access points with central and remote management capability. Security **must** also consider access control, remote dialup, telecommuting, residential access and virtual private network (VPN) access.

Quality of Service (QoS) **must** be maintained to achieve a dependable and reliable network. QoS will perform an important role with video and voice in the future. As technology incorporates video into applications, the I-Net Team will be relying on the I-Net system to perform, while maintaining a QoS.

All current audio and video capabilities **must** be transitioned to be available on the I-Net. At a minimum, the video will be capable of:

- Multi-channel transmission of real time broadcast quality audio (IEEE) and video signals (CCIR 601 with NTSC resolution), applications, and data signals for interactive applications over a fiber optics network, with the capability to transport high definition television (HDTV) in the future
- Digital videoconferencing
- Digital services for streaming video
- Video on demand
- IP/TV technologies supporting unicast and multicast requirements
- Distance/distributed learning classrooms
- Connection to George Mason University for uplink services

The I-Net will allow the transmission of audio and video signals, along with voice and data signals, for the use of County and School agencies. Video signals can have a dedicated pair of fiber optic strands.

Presently, Schools produce a fully digital signal at the Chapel Square Center, and the County is in the process of implementing a fully digital production at the Government Center. The desired end result is for the transmitted signal to be digital as well. The final signal **shall** be of a broadcast quality as defined by FCC rules, SMPTE, and IEEE standards.

The demand for services and the number of programs will grow and develop, requiring additional channels for both studios. The County and School video production groups both foresee a minimum of ten channels each, in addition to their existing channels, to handle developing programs and expansion of each department. Also included in the distribution are the Cox channels desired by both video departments to be transmitted along with the County and School channels. The I-Net will need to accommodate future growth without sacrificing the quality of the audio and video signals of the existing channels, as well as the new channel transmission.

6.5.1 Design Deliverables

A single line schematic diagram **shall** be drafted for interpretation of the system requirements. The draft design **shall** describe all seven hubs and equipment, backbone technology, distribution technology, software, and node equipment required to transmit and receive video, data and voice signals.

From the schematic diagram, a cost proposal **shall** be derived for budgeting and purchasing. Full design production **shall** be based on the approved schematic design, and a 50% and 100% design of the system and equipment specifications **shall** be submitted for review.

The Final Design **shall** include graphical schematics, cable schedules, equipment rack elevations, and will be the complete design with equipment specifications, life cycle analysis, cut sheets, fiber dB link-loss budget calculations, and equipment configurations and connectivity. Documentation of equipment configuration will describe all aspects of system and equipment setup. Documentation **shall** include, but not limited to:

- Routing Protocol(s)
- Network Protocol(s)
- IP Addressing
- Gateways
- Routers
- Switches
- Trunks, Channels, and Private Virtual Circuits
- Servers and Printers
- Firewalls, DMZ's, and Other Security Components
- Equipment and Port Configurations
- Storage devices
- Optical / Electrical Converters, Processors, Modulators / Demodulators
- Redundant and Uninterruptible Power Supplies (UPS)
- Network Management
- Virtual Private Networks (VPNs)
- Virtual Local Area Networks (VLANs).

The final design will be submitted, along with cost proposals for equipment purchase and implementation schedule to the I-Net Team for review.

MILESTONES

- Preliminary Schematic Design Reports
- Schematic Design, System Life Cycle Analysis
- Equipment Vendor Selection
- Proof of Concept
- 50% Design and Equipment Specifications Outline
- 100% Design, Equipment Specifications, Equipment Cut Sheets, Fiber dB Link-Loss Budget Calculations

6.5.2 Implementation Deliverables

Commencement of the implementation **shall** be when the I-Net Team has accepted and approved the final design of the I-Net system. Once accepted, the I-Net Team **shall** set a date for the implementation phase to proceed.

A comprehensive schedule listing all hubs and sites showing time and date of installation and components to be installed. Scheduling **shall** take into consideration:

- Critical requirements of agency(s) affected
- Operating time of the agency(s) office
- Procurement of equipment

All installed and configured components **shall** have a burn-in/test period displaying network stability, fault tolerance, and security infiltration before a site is cutover to the I-Net system. The minimum time allotted for burn-in/testing **shall** be:

- Hub sites -- 120 hours, continuous per site
- Node sites -- 72 hours, continuous per site

The I-Net Team **shall** approve all installed sites to proceed for cutover. All rejected sites **shall** be reevaluated by the contractor and scheduled for additional time for testing.

6.6 Solution Compatibility

The hardware and software proposed **must** be fully compatible with the County's network environment as described below. The County has a very strong Cisco presence and there is no intent on arbitrarily replacing this existing base of equipment, except in those instances in which equipment due to age, technological obsolescence, or an accepted design makes it desirable to replace.

6.7 Overall Network Architecture

The architectural solution proposed, including all hardware and software, as well as services, **must** be able to provide support for concurrent ATM and Gigabit Ethernet on the network backbone. The proposed hardware and software solution **must** allow for the use of virtual LAN (VLAN) technology. The proposed solution **must** integrate with the high-speed connectivity between desktop, closets and the County's Data Center that utilizes switching technologies, workgroup switching, backbone switching and routing.

6.8 Hardware/Equipment and Requirements

6.8.1 Standard Equipment

The Offeror **must** adhere to the following guidelines as related to all equipment (includes hardware and software) included in the proposal:

The equipment **must** be a member of an upwardly compatible "family" of hardware so the equipment can accommodate future requirements and expansion by upgrading the equipment with a minimal effect on the network infrastructure. The Offeror **shall** state where quoted equipment stands within the family of hardware.

The equipment **must** be standard "off-the-shelf" equipment for which the performance and reliability characteristics are well known from actual field experience. The capability, quality, reliability and homogeneous of the equipment will be considered in evaluation.

6.8.2 Reliability and Availability

The equipment procured will be vital to the operation of the County. It will be subject to daily utilization. Applications that are used directly in County Operations will ride on this network. It **shall** therefore be designed to very high standards of reliability and availability, as specified below:

- 1) No less than 99.99% uptime, including maintenance, between core campus and hub switches that form the MAN backbone. Including failover circuit links and/or redundant links.
- 2) Site node switches should be capable of supporting redundant power supplies.
- 3) Hub site and campus backbone switches must have redundant load sharing/balancing between power supplies and must be capable of supporting the latest proven technologies with redundant links between backbone campus switches.
- 4) Gigabit Ethernet on the up-links connecting the campus backbone switches in the closets to the floor closet workgroup switches.
- 5) Equipment **must** be a chassis-based workgroup switch for 10/100 switched Ethernet in all County-owned locations.
- 6) Hub sites, campus backbone, and workgroup switches **must** have 100 percent availability. Switches within a workgroup **must** be hot swappable to allow replacement in case of failure without impacting the operation of the other devices.
- 7) Offeror **must** provide information on equipment redundancies, fault tolerance and Mean Time between Failure (MTBF) and Mean Time For Repair (MTFR) for components.

6.8.3 Virtual LAN (VLAN) Capability

The departmental LANs **must** be able to remain partially autonomous through the capability of workgroup switch software configuration.

6.8.4 VLAN Membership

The proposed equipment **must** support VLAN membership defined by port or MAC address, and it **must** demonstrate how this function integrates with dynamic policy-based networking tools that integrate with directories, such as Active Directory.\

6.8.5 Shared Media Hub/Switch

The proposed equipment **must** be intelligent wiring hubs/switches for the wiring closet as a physical integration point for multiple media types (i.e. Ethernet (100 Mbps, 1 Gbps, 10 Gbps)).

6.8.6 Switching to the Desktop

The proposed equipment **must** provide per-port switching to all desktops.

6.8.7 Auto-partitioning for Erring Ports

The proposed equipment **must** automatically partition off ports with fault conditions exceeding a predefined threshold.

6.8.8 Backbone Switch Port Speeds

Proposed backbone switches **must** support various high-speed ports --10/100 Mbps Gigabit Ethernet, ATM and/or other technologies.

6.8.9 Redundant Power Supply

Redundant power supplies **shall** provide the following:

- 1) Power management notification
- 2) Load balancing
- 3) Load sharing
- 4) Hot swappable

Redundant power supplies **shall** be provided in the following areas:

- 1) Main hub sites
- 2) Core equipment sites
- 3) Fire and safety emergency sites
- 4) Disaster recovery sites
- 5) Other sites, as required, with 24/7/365 operation

6.8.10 Hot-Swappable Cards

- 1) Equipment must employ passive back planes.
- 2) Swappable modules **must** enable removal and replacement without disrupting operation of other devices in the same hub/switch.

6.8.11 Instrumentation of the Network

The proposed equipment **must** provide port-level traffic data display via graphics at a central management console. This data at a minimum **must** include Statistics, History, Alarms, Events, Hosts, Top N and a Traffic Matrix.

Proposed equipment should provide a separate module for full RMON2 functionality in the backbone hub and core.

Proposed equipment **must** support Network Time Protocol (server and client) for clock synchronization of all network device clocks.

Offeror's must equipment **must** support syslog function on devices to forward all console and trap messages generated by all device to central storage and analysis tools.

Offeror's must equipment **must** support the ability to customize SNMP trap generation based on event priorities for management troubleshooting.

6.8.12 High Bandwidth Support

The proposed equipment **must** support the County's high bandwidth and asynchronous requirements.

6.8.13 Network Latency

The proposed equipment **shall** add a negligible amount to the response time for any application or system on the network.

6.8.14 Network Performance

Switch/Router performance issues will be evaluated in the following areas:

Packets per Second (PPS) - Independent Testing Lab Data

As PPS specifications may or may not reflect "real world" data communications traffic, the Offeror should use this opportunity to present other meaningful performance specifications for the family of proposed equipment. Any accompanying explanations or justifications should be presented on no more than two 8 1/2 x 11 typewritten pages.

6.8.15 Bus Architecture Bandwidth

In order for the County to ascertain the "saturation point" of the proposed hardware, the Offeror should identify the bus bandwidth of the proposed equipment.

6.9 County's Network Service-Level Requirements

6.9.1 Service Call Response Time

The Offeror **must** be able to start diagnosing a reported problem upon receiving the phone call during service coverage as defined below.

6.9.2 Service Coverage

The equipment and services **must** provide seven-day-a-week, 24-hour network availability showing terms and cost.

6.9.3 Proactive Network Monitoring

The equipment and services **must** provide the ability for the County to do proactive network management processes.

6.9.4 Total Quality Management

The Offeror **must** provide Total Quality Management (TQM) or comparable processes for the County's Enterprise Network.

6.10 Test Network Lab (Optional

6.10.1 General Requirement

The County would like to have set up on premises a Test Lab where it can test on an ongoing basis new equipment and software prior to moving it into the production environment. Optionally, outside the scope of the production network and priced separately, the Offeror may propose to set up a test network lab that will mirror a representative part of the County's proposed network topology (including all core backbone equipment and components).

6.10.2 Purpose

The purpose of the Lab is to enable the County's network staff to test selected network architectural components (hardware, software, cabling) prior to implementation in production. This will allow the network staff to better assess the impact of the new component(s) on the network, experiment with different topology or software alternatives, and to get hands-on training in a non-production environment.

6.10.3 Component Pricing

If a Test Lab is included in the proposal, the Offeror **must** provide pricing for all components of the test lab equipment and all other charges for installation, set up, support, etc. on the attached proposal pages.

6.11 Hardware/Equipment Configuration

6.11.1 Equipment Schedule and Costs

The Offeror **must** outline the proposed equipment configuration for the County. Assume 50,000 concurrent end users and keeping in mind our objective to leverage the County's base of Cisco equipment. The Offeror will detail equipment needed and estimated acquisition cost.

6.11.2 Spare Parts

The Offeror's proposed equipment schedule **must** include spares of critical components. The Offeror **must** identify each critical component and the production-to-spare ratio of each component.

6.11.3 Used Equipment Credit

During the period of this contract, realizing that a network is a constantly evolving entity that is always expanding with existing equipment replaced with new equipment, the Offeror **shall** provide the County with trade-in credit for all equipment previously installed that is replaced by any new equipment. Additionally, as the selected Offeror replaces equipment in the out years of the contract, trade-in credit will be awarded to the County based on type of equipment replaced.

6.11.4 The County's Staffing Requirements

The Offeror **must** describe the level of County's operating and technical support staff required before, during and after implementation of hardware and software. This should include the County's responsibilities for any space, hardware, communication capabilities, etc.

6.12 Operating System Software

- A) SNA Data Link Switching
 - 1) The Offeror should address support for the proposed DLSW standard to reduce SNA polling over a TCP/IP network.
- B) Switch/Router as a Multi-port SR Bridge
 - 1) The ability for the proposed switch/router to function as a central multi-port "hub" for existing remote IBM Source Routing Bridges is desired. This facility could ease the transition from a bridged network to a full router network. The Offeror should address the potential multi-port bridge capabilities of the proposed router system.
- C) SNA Prioritization
 - The Offeror should discuss techniques for prioritizing SNA sessions regardless of the bandwidth required for other protocols. Also, the vendor should discuss techniques used to reduce SNA polling over the Wide Area Network
- D) IPX/SPX
 - 1) The Offeror should address techniques used to limit file server broadcasts and IPX packet acknowledgment over the Wide Area Network.

6.12.1 Access Authentication

Network components **must** have built-in security, such as Radius or TACACS that will prevent unauthorized access and will require a network technician to enter a user ID and password to gain any access to the network system equipment. Equipment **must** have the ability to define security in such a way that the technician is restricted to specific functions.

6.12.2 Ease of Use

The equipment **must** provide user-friendly interfaces such as menus, GUI, pointing devices, and drag-and-drop in support of device management tasks.

6.12.3 Year 2000 (Y2K) Compliance

All equipment **must** be Y2K-compliant. Offerors **shall** provide Y2K certification stating whether all proposed architectural components are currently Y2K-compliant. If any of the proposed components is currently not Y2K-compliant, the Offeror **must** state the plans for such compliance and indicate a committed date when it will be accomplished.

6.13 Network Management

The County uses various products for network management. The County has implemented SNMP-based Network Management. Therefore, all network equipment proposed **must** be capable of being monitored and controlled using this Tivoli product as well as being monitored and configurable using SNMP Network Management capabilities.

- A) The Offeror should address Network Management of the proposed equipment with respect to the following four general categories:
 - 1) Configuration Management centralized management and configuration of the equipment.
 - 2) <u>Performance Analysis Security</u> permit or deny access to resources on the network either based on Internet or MAC addresses.
 - Accounting the ability to identify the users of router resources either based on Internet or MAC addresses.
 - 4) Diagnostics.
- B) Network Management via ASCII Terminal The Offeror should address Network Management utilizing a dedicated ASCII terminal "hardwired" to the proposed equipment (i.e., out-of-band management.)
- C) Network Management via TELNET RLOGIN The Offeror should address Network Management via a TCP/IP host with Telnet remote login capability to the proposed equipment. Password security **must** also be addressed.
- D) Frame Relay KIB (RFC 1315) The Offeror should address support for the collection of Frame Relay performance and traffic statistics and monitor/control of the network by an SNMP-based network management system over a frame relay network.
- E) Network Management Vendor Alliances The Offeror should identify vendor alliances of SNMP-based Network Managers to whom the most current router MIB extensions are supplied.
- F) County Standard Network Manager The Offeror should address the applicability of using Tivoli to monitor and control the proposed equipment. If this capability does not currently exist, but is a stated direction, please indicate any additional hardware or software, which will be required.
- G) Statement of Direction for support of SNMP2 The Offeror should include a brief statement of direction concerning the support of SNMP2 network management protocol standard
- H) The Offeror should address the capability of the proposed equipment to "filter" network traffic based on:
 - MAC address or multiple addresses
 - INTERNET address or multiple addresses
 - NETBIOS name(s)
 - IPX/SPX name(s)

6.13.1 Integrated Management Platform

The Offeror **shall** propose a network management system to provide the following functions: monitoring, security, port access and control, reporting and a relational database interface.

6.13.2 Network Management Tools

The Offeror **must** list the network management components and describe how they operate to meet the function listed in 6.10.1 above.

6.13.3 Network Management Platform

The County reserves the right to procure the necessary hardware to operate this Network Management System, if it is found to be in the County's best interest. The Network Management system **shall** operate in either Unix or Windows 2k family environments.

6.13.4 Network Management Database

The Offeror **shall** provide the most current release of the proposed database platform to interface the network management system, and/or describe the interfaces required to operate in the County's existing version of Oracle and MS SQL. The Offeror **shall** describe what data is shown by the network management system, how it provides this information to the database, and how it is displayed to the user.

6.13.5 Management of Logical Elements

Network management in this context **must** go beyond the management of fixed topologies or resources into the management of logical or virtual groupings, applications and business entities.

6.13.6 Central Management Console

The network management platform **must** provide a central point of control and management for the network infrastructure that is distributed among the various user areas.

6.13.7 Remote Operation

The Offeror **shall** indicate how its proposed system will provide console operation from a remote location.

6.13.8 Task Automation

The provided network management system **shall** automate such tasks as resource discovery and topology mapping. Automatic notification of such things as problems, errors, conditional limits, etc. **shall** be provided. Offeror **shall** indicate how the proposed system will provide automatic notification through external devices such as pagers, cell phones, Email, etc.

6.13.9 Scalable Platform

The network management environment **must** be scalable to be able to support the increasing numbers of systems and segments at the County's campuses and remote locations.

6.14 Management Station Backup/Recovery

6.14.1 Backup Capability

The equipment **must** provide backup capability to copy data and system software. The equipment **must** provide online backup that is concurrent with full network operations.

6.14.2 Backup and Recovery Procedures

The Offeror **must** describe backup and recovery procedures, which **shall** ensure no loss of data in the event of a hardware failure.

The equipment should support multiple images on the switches and routers/L3 switches with easy fall-back mechanism to previous image.

Management platform software should regularly collect, archive and compare configuration files and images.

Management platform software should allow on demand or schedule download and activate new image files to any devices.

6.14.3 System Reload Capability

The equipment **must** have utility programs to reload data and system software.

6.14.4 Automated Backup

The equipment **must** have automatic unattended backup procedures.

6.15 Network Migration Requirements

6.15.1 Transparent Migration

The proposed equipment and consultant support **must** be capable of maintaining existing connectivity and performance levels during any migration from old to new infrastructure.

6.15.2 Implementation Plan

Offerors **must** provide a technically sound multi-step plan that provides the safest implementation of their hardware and software, i.e., no reduction in network availability and reliability during any future migration.

6.15.3 Performance Metrics

Offeror **must** define the performance metrics that should be monitored during any migration to determine objectively, if the network performance is in any way affected, by the replacement of older equipment with new equipment.

7.0 Personal/Consultative Services Requirements

The successful offeror **shall** maintain information flow in regards to the progress of the design and implementation. The County expects full disclosure of all issues, problems, and concerns that may arise throughout the project.

7.1 General Requirements

The following requirements outline expectations to and from the successful Offeror. These general requirements **shall** be used in reference with the entire document and **shall not** be construed as limited requirements.

7.1.1 County

The responsibility of the I-Net Team is to provide direction and information to the successful Offeror for the development of the I-Net project, including:

- 1) Attend weekly status meetings
- 2) Identify key personnel
- 3) Provide network documentation and requirements
- 4) Request progress meetings
- 5) Review and comment on submittals

7.1.2 Successful Offeror

The successful Offeror will be responsible for keeping the I-Net Team updated with the status of the project, including:

- 1. Submit and attend weekly status meetings
- 2. Contact and schedule meetings with key personnel
- 3. Gather information
- 4. Analyze information
- 5. Develop concept design
- 6. Design system and network configuration
- 7. Provide quotes according to specifications mentioned in this SOW
- 8. Provide all documentation as described in this SOW

From time to time the County envisions the services of expert assistance in the implementation, integration and maintenance of its Enterprise Network. In this regard, the successful Offeror **shall** offer a range of Network consulting services, which **shall** include ATM and Gigabit Ethernet consultation and implementation for Local Area Network (LAN) services, intra-campus and inter-campus Backbone Network Services and Wide Area Network Services. These services **shall** include:

- A) The successful Offeror will be responsible for keeping the I-Net Team updated with the status of the project, including:
 - 1) Network Architecture Design and Implementation
 - 2) Network Planning Support
 - 3) Network Configuration Support
 - 4) Network Implementation and Project Management

- B) Network Management Service
 - 1) Network Management Planning Service
 - 2) Performance Analysis Service
 - 3) Security Planning Service
 - 4) Capacity Planning Service
 - 5) Audit and Discovery Services
- C) Messaging and Internet Services
 - 1) Messaging Architectural and Design Services
 - 2) Internet and Intranet Planning Services
 - 3) Security Planning and Implementation Services
 - 4) Internet Implementation Services
 - 5) Firewall Design Services
 - 6) Firewall Implementation Services
 - 7) Web Server Design Services

The aforementioned areas of consulting are to be provided at an hourly rate to be specified by the successful Offeror. The successful Offeror will develop a mutually agreeable, between the County and the successful Offeror, statement of Work (SOW) which will detail specific activities and deliverables for a particular tasking. Once the SOW has been agreed to and executed by the County and successful Offeror, services will commence.

The SOW will be kept by Fairfax County and the successful Offeror for record keeping purposes. Mutually agreeable progress payments may be required and itemized within the SOW. Should the County desire or be required to procure any equipment as a result of the aforementioned consulting services, the equipment will be estimated and purchased separately from this SOW and in accordance with any applicable County purchasing procedures.

7.2 Resolution of Questions and Issues

Except as otherwise provided in this document or the contract, the County's INET Manager in consonance with County Purchasing **shall** be responsible for deciding all questions and issues, which arise with respect to interpretation of equipment requirements and documentation. Resolution of such questions and issues **shall** be final and **shall** be furnished to the successful Offeror in writing. The successful Offeror **shall** proceed with non-affected tasks pending the INET Manager's decision.

7.3 Escalation Procedures

The successful Offeror **must** have clear and sound escalation procedures that define the escalation path(s) for persistent problems and the threshold(s) at which the escalation procedure has to be invoked. The escalation procedure **must** include the name(s) of person(s) to contact under specific circumstances, the telephone numbers (office, cell, pager, and home, as appropriate) and the E-mail address. These **shall** be provided at contract signing.

7.4 Quality Reviews

The successful Offeror **must** conduct quality reviews throughout the duration of the contract to ensure quality deliverables. The quality reviews **must** be identified for each phase, when important milestones are reached. The successful Offeror **must** define quality-review procedures that include, for every deliverable, metrics for quantifying quality and identifying defects. These procedures **must** also include provisions for dealing with defects. The outcome of quality reviews will be documented, reported and distributed to the County's INET Manager and others.

8.0 Deliveries, Installation, Testing, Payment and General Information

8.1 Price Content

Price **shall** include all hardware and software, documentation, transportation, delivery charges, and all other costs associated with Offeror's proposal.

Offerors responding to this RFP are advised that Fairfax County Schools (FCPS) and FCG Public Libraries participate in the Federal Universal Service Fund (E-rate) program that is governed by the Federal Communications Commission and authorized by the Telecommunications Act of 1996 (Snowe-Rockefeller-Exon-Karrey amendment). This program provides FCPS/FCPL the opportunity to receive discounts for certain products and services provided by vendors. Offerors are encouraged to review the E-rate program history, rules, filing requirements and the products and services eligibility list found at the following Web suite: (http://www.sl.universalservice.org). Offerors are encouraged to allow for the e-rate discounts up front rather than reimbursing FCPS/FCPL at a later date.

8.2 Equipment Delivery

Unless otherwise specified, all deliveries will be marked as "Inside Delivery" and **shall** be made to:

Fairfax County Government Center, Suite 167 12000 Government Center Parkway Fairfax, Virginia 22035

The County's INET Manager shall receive a three-day notice prior to any delivery.

8.3 Preliminary Inspection

All hardware **shall** be visually inspected by the County's INET Manager or his/her designee upon receipt to determine obvious damage. If damage exists, the successful Offerors OPOC will be immediately notified by phone with hard copy notification to follow.

8.4 Design/Manufacture

All hardware and software **shall** be new and **shall** be the manufacturer's latest design of the model presently in production. Equipment and materials furnished by the successful Offeror having defects, corrosion or scratches which tend to present an "other than new" appearance or which do not comply with contract specifications **shall** be promptly replaced or such defects promptly corrected by the successful Offeror at no cost to the County.

8.5 Shipment Rejection

If upon initial inspection of the hardware supplied, more that ten percent (10%) of the total quantity of any item is found to be defective and/or damaged, the County reserves the right to reject the entire shipment of the item to the successful Offeror at the successful Offeror's sole expense.

8.6 Component or Item Rejection

Notwithstanding the foregoing, the County may reject any component or item it determines to be defective. Also, any component or item of hardware or software may be rejected until it has met the County's performance test pursuant to these specifications, provided that the County may revoke acceptance for any component or item the County subsequently determines to be defective.

9.0 Testing and Acceptance

9.1 Acceptance

Final acceptance of the I-Net **shall** be at a time when all hub and node sites have been installed and in operation without disruption in service. The acceptable minimum timeframe allotted for complete operation are:

- Hub Sites -- 120 days, continuous per site
- Node Sites -- 30 days, continuous per site

9.2 Certification Testing

- Certification testing will consist of the following five levels:
- Unit Tests—tests of individual units
- Integration Tests—tests whatever units operate as a network system
- Stress Tests—tests how well the equipment performs across the network
- Live Test—these tests occur when the equipment is in production. Tests **must** last long enough to determine the equipment's integrity
- Project Certification—when the County notifies the vendor that the equipment and installed network architecture meets approval.

9.3 Certification

The County's Project Certification testing **shall** begin within ten (10) business days following receipt and installation of equipment. The tests will be conducted on the County site and in the County network environment in order to determine whether (1) the component(s) performs in accordance with the equipment's functions, specifications and description and does not exceed the facilities' usage or network traffic limits and standards set forth in successful Offeror's specifications and other successful Offeror documents; (2) the equipment can be effectively utilized in the County's new network architecture environment; (3) the documentation for the equipment is thorough, understandable and instructive so as to impart reasonably clear guidance for the equipment's use; and (4) the equipment meets all functional requirements as described in Section Six, "Technical Requirements."

During the test the County will also evaluate the ease of use of the equipment and the support provided by the successful Offeror. The certification test will be successful if the equipment operates successfully in compliance with these specifications for a total of 30 consecutive days *in the County's production environment.*

Written notification will be furnished to the successful Offeror if any item or function is determined unacceptable to the County. The successful Offeror will then have ten (10) days to correct or replace the defective item and notify the County that all such errors have been remedied. The County will have three (3) additional County working days to recommence the aforesaid certification test. This process will be repeated if necessary until the equipment meets the aforesaid 30- consecutive-day test, and the County notifies the successful Offeror in writing of Project Certification. However, if the test results are not accepted hereunder within 120 County working days after the County's certification testing, the County shall have the right and option, following ten (10) days' advance written notice to successful Offeror (during which period the successful offeror shall have the right to cure by full performance of the certification test obligations), to declare successful offeror to be in default and the County may exercise any or all of its full spectrum of remedies, including, but not limited to cancellation and rescission of this agreement. Upon contract cancellation by the County due to the successful Offeror's breach or default, the County shall have the right to return the equipment, documentation, etc., at the successful Offeror's sole cost (successful Offeror being fully responsible at its sole cost to perform all services necessary for the shipping thereof). Successful Offeror shall promptly refund to the County the full amount of any payments made to the successful Offeror pursuant to these specifications less the amount of any depreciation, based on a five-year period. The County reserves the right to apply the aforesaid testing and acceptance procedure to subsequent installations and new releases of equipment and software.

Upon successful completion of every element of the certification test, the County will execute a written notice of certification of the equipment and installed network architecture. The aforesaid termination and remedy provisions are complementary to other provisions covering similar matters in the contract documents.

10.0 Warranties/Support and Maintenance

10.1 Equipment Support

10.1.1 Support Warranty

The successful Offeror as it relates to the proposed equipment **must** provide support, or successful Offeror **must** warranty that the original manufacturer will provide such support, for one year. Typical equipment support functions are problem diagnosis, problem isolation and problem resolution.

10.1.2 Overall Equipment Support

The Offerors **must** respond to the following items and indicate any other items pertinent to equipment support:

- A) Describe the equipment support organization.
- B) Describe the methods proposed for supporting the County, including assignment of personnel, experience and training level, and hours of availability.

- C) Describe the equipment support and maintenance philosophy. Specifically, successful Offerors **must** describe equipment problem resolution objectives, methods and the procedures enacted, including time frames if objectives are not met.
- D) Describe the equipment support philosophy with respect to updates and enhancements, including research and development, and equipment customization.
- E) Describe the facilities available to the equipment support personnel such as problem resolution databases, communication facilities and resources required by the County to support the same. State whether a network analysis tool is used for problem diagnostics.
- F) Describe support activities for any other equipment proposed.

11.0 Warranty/Maintenance Service

11.1 Warranty Period

The successful Offeror warranties all hardware and software products supplied by the vendor as follows: the warranty of each item or component will start at the time of delivery and extend to one year after the date of project certification by the County.

11.2 Maintenance Options

After expiration of the warranty period and at the County's option, successful Offeror **shall** provide to the County maintenance, additional support and enhancements in connection with the network equipment in accordance with the following provisions:

- A) A twenty-four (24) month equipment support and maintenance period shall commence on the day next following the last day of the warranty period.
- B) Payments during and for said support and maintenance period shall be due and payable in advance on an annual basis.
- C) The equipment covered in the equipment support portion of this agreement is the hardware, software, firmware and documentation included in the network architecture as updated with improvements or modifications furnished to County under the provisions of this specification.
- D) During the equipment maintenance term, successful Offeror shall supply the County with any and all updates, enhancements, improvements or modifications to the equipment at no additional charge to the County.
- E) Successful Offeror shall correct or replace the equipment or provide the services necessary to remedy any programming error, malfunction or other problems in connection with the hardware, software, firmware, documentation, etc.
- F) Calls reporting problems will always be made to the successful Offeror. When return calls are made, either to gather more data or to prescribe corrective actions, the first such return call shall arrive from a person trained and qualified to diagnose and resolve the general type of difficulty reported. This call shall be received by the County within one (1) hour of the report of trouble, not counting hours outside the maintenance hours herein set forth.
- G) In any event, successful Offeror's initial response to remedy errors, malfunctions or problems, whether identified by the County, another user of comparable equipment or any other person, **shall not** exceed one (1) hour.
- H) Successful Offeror, when attempting to resolve a problem of substantial difficulty or magnitude, shall use its best efforts to proceed with diligence and good faith to affect a remedy in a timely and efficient manner.

- Successful Offeror shall dispatch a Field Engineer to Fairfax County upon request by the County's network services management. The Field Engineer must arrive on site within four (4) hours from the time the call was placed by County's network services management.
- J) In the case of an *emergency service* request by the County's network services management, the Field Engineer must arrive on site within two (2) hours from the time the call was placed.
- K) Successful Offeror must have duplicates of all of the County's network hardware, software, firmware and documentation locally available. This shall be delivered and on site at the County within four (4) hours of request by the County's network services management or if required by the dispatched Field Engineer.
- L) In the case of an *emergency* request, the above network hardware, software, firmware and documentation shall be delivered and on site at the County within one (1) hour of request by the County's network services management or if required by the dispatched Field Engineer.
- M) Successful Offeror shall attach to the bid, schedules of activities necessary to the proper functioning of their equipment, the titles and frequencies of any reports which the County will be expected to produce for the successful Offeror, and the types and probable extent of the activities with which the County will be expected to assist the successful Offeror in remedial maintenance efforts. The costs of user responsibilities will be included in the cost analysis performed for the purpose of bid award.
- N) Successful Offeror hereby grant to the County up to five (5) options to extend said equipment maintenance term, each for a period of twelve (12) months. The provisions of section 3.7 shall govern any price increase for any such extension period hereof.
- O) The County shall have without penalty or any cost or charge the right to cancel maintenance or change maintenance time periods on the equipment by giving the successful Offeror thirty (30) days' written notice prior to such change.
- P) Successful Offeror shall in good faith support and resolve problems with connectivity to the equipment in accordance with the maintenance and support provisions of this document.
- Q) If successful Offeror determines the problem lies with equipment of other manufacturers, then the successful Offeror shall work cooperatively with the County and such other manufacturers to identify and resolve the problem.
- R) Successful Offeror must provide the County with new versions of the standard equipment at then current rates, upon the County's request and when made generally available.
- S) Successful Offeror must provide a complete description of its routine and preventive maintenance schedule.
- T) Preventive maintenance shall be scheduled as frequently as is recommended by the manufacturers of the equipment's various components. The hours used for preventive maintenance will be scheduled by the County's Network Services Management
- U) Successful Offeror must provide 7x24 support on all hardware and software components of the network equipment as bid. Successful Offeror must provide one telephone number to call for all hardware and software maintenance/support problems.
- V) For security purposes, the network management system shall be password accessprotected. In addition, any modems attached to the equipment shall be password accessprotected and shall dial back to the successful bidder's support personnel having requested access to the County's equipment.
- W) Successful Offeror must provide critical components and, when required, a service technician on site within four (4) hours after receipt of notification from the County. Critical components are defined as those involving substantial hardware or software failure or those, which, in the County staff's reasonable judgment, are critical to the network's overall operations.
- X) In the case of an *emergency service* request, successful Offeror must provide such critical components and, when required, a service technician on site within one (1) hour after receipt of notification from the County.

- Y) All costs associated with the delivery to and from the County of software and/or hardware required, as the results of malfunctioning equipment shall also be provided at no expense to the County. Such cost items shall include but not be limited to the following: transportation, packaging, crating, delivery, installation, de-installation, component handling and insurance.
- Z) If any communication lines, equipment or software will be needed specifically for maintaining the equipment, the lines and components shall be identified in the bid document, and included in the cost of the equipment.
- AA) Successful Offeror must provide the County with a monthly allowance of a minimum of four (4) hours of remote telephone non-warranty support at no additional charge. The allowance may be used for assistance and advice on the operation and functions of the equipment, for help with diagnostics and other problem determination procedures, and for advice and assistance in problem situations.
- BB) Any individual item of equipment covered by this procurement experiencing more than three failures for reasons not external to itself during the warranty period shall be replaced with a new item meeting specifications, at no cost to the County. If the item is considered critical, the successful Offeror shall replace it within twenty-four (24) hours after receipt of notification from the County. A new warranty period for the item identical in length and terms to the foregoing warranty period shall commence on the date of replacement of any such item.

12.0 The County's Responsibilities

12.1 Access to the County's Facilities

During the term of the contract, the County will provide the successful Offeror with both on-site accesses to each facility and access to the network equipment, accompanied by County Network staff.

12.2 Backup and Recovery Procedures

The County will maintain up-to-date documentation at the County and be solely responsible for maintaining all necessary backup and recovery procedures.

12.3 Front-line Problem Resolution

Before contacting the successful Offeror, the County personnel will perform problem resolution procedures. Successful Offeror **shall** set forth in the bid a detailed list of any problem resolution responsibilities that will be required of the County. The cost to the County to comply with such responsibilities **shall** be included in the bid's evaluation.

13.0 Training and Enhancements

13.1 Training

The contractor **shall** train county personnel on the I-Net system after complete acceptance of the I-Net system. The County will choose key personnel for training. The duration of the class will be at the discretion of the contractor, but long enough to be a complete and thorough training session. Training **shall** be supplemented with documentation describing all component setup and configuration, maintenance, monitoring, software, and manufactures documentations.

13.1.1 Training Plan Details

Offeror **must** describe training plans in detail, including the Offeror's education and training philosophy.

13.1.2 Standard Training

Offeror **must** list any training included with the equipment and software procured by the County.

13.1.3 Cost of Supplemental Training

Offeror **must** itemize separately in their bid responses recommended courses of instruction and costs associated with this training that the Offeror is available to deliver.

13.1.4 Off-site Training

Offeror **must** specify location, length of time and costs of any off-site training recommended.

13.1.5 Hands-on Training

Successful Offeror **must** provide training materials and hands-on training in a classroom at the County on the use of the installed equipment.

13.1.6 Staff Training

The primary purpose of the training requirement is to produce a group of County staff that will be competently and fully trained, to enable such staff to assume full responsibility for the daily operation and routine in-house maintenance of the equipment, as well as initial problem determination procedures. Offeror **must** meet the following training-related requirements:

The training of 20 persons with a MIS background, responsible for the technical implementation, support and day-to-day operation of the network infrastructure.

12 of the 20 should be trained for level 1 support; the remaining three would receive level 1 training post-cut-over. Eventually no less than four **must** be trained for level 2 technical support.

Offeror **must** list the cost for training of all of the above persons in the proposal.

Each person in the above group **must** be able to perform all functions normally required of them without assistance at the conclusion of the training session.

Offeror **must** provide the County training at no additional cost during the first twelve (12) months following the Project Certification.

Offeror **must** identify any costs for education after the above twelve-month period in the bid document.

13.1.7 Future Enhancements

Offeror are requested to provide anticipated enhancements to its equipment and new technology, which are currently under development and/or planned over the next 18 month planning cycle. This information is to be used by the County to provide a road map to determine the overall design and direction of the County's network.

13.1.8 Order of Precedence

In the event of conflict, the Acceptance Agreement (provided at contract award) and the Special Provisions of this contract shall take precedence over the General Conditions and Instructions to Bidders, (Appendix A).

13.1.9 Purchase Order

A purchase order may be enclosed with the resulting contract or may be issued shortly thereafter, and will become an integral part of the resulting contract. The purchase order indicates that sufficient funds have been obligated as required by Title 15 or the Code of the Commonwealth of Virginia, and assures distribution of the necessary receiving reports.

The purchase order does not supersede any provisions of the resulting contract. Performance time and dates are determined solely by the contract and any modification thereto.

Services are not to begin until receipt of the purchase order and/or other notification by the County Purchasing Agent to proceed.

13.1.10 Project Audits

The Contractor shall maintain books, records and documents of all costs and data in support of the services provided. Fairfax County or its authorized representative shall have the right to audit the books, records and documents of the Contractor under the following conditions:

- a. If the contract is terminated for any reason in accordance with the provisions of these contract documents in order to arrive at equitable termination costs;
- b. In the event of a disagreement between the Contractor and the County on the amount due the Contractor under the terms of this contract:
- c. To check or substantiate any amounts invoiced or paid which are required to reflect the costs of services, or the Contractor's efficiency or effectiveness under this contract; and,
- d. If it becomes necessary to determine the County's rights and the Contractor's obligations under the Contract or to ascertain facts relative to any claim against the Contractor that may result in a charge against the County.

These provisions for an audit shall give Fairfax County unlimited access during normal working hours to the Contractor's books and records under the conditions stated above.

Unless otherwise provided by applicable statute, the Contractor, from the effective date of final payment or termination hereunder, shall preserve and make available to Fairfax County for a period of three (3) years thereafter, at all reasonable times at the office of the Contractor but without direct charge to the County, all its books, records documents and other evidence bearing on the costs and expenses of the services relating to the work hereunder.

Fairfax County's right to audit and the preservation of records shall terminate at the end of three (3) years as stated herein. The Contractor shall include this "Right of Audit and Preservation of Records" clause in all subcontracts issued by it and they shall require same to be inserted by all lower tier subcontractors in their subcontracts, for any portion of the work.

Should the Contractor fail to include this clause in any such contract or lower tier contract, or otherwise fail to insure Fairfax County's rights hereunder, the Contractor shall be liable to Fairfax County for all reasonable costs, expenses and attorney's fees which Fairfax County may have to incur in order to obtain an audit or inspection of or the restoration of records which would have otherwise been available to Fairfax County from said persons under this clause. Such audit may be conducted by Fairfax County or its authorized representative.

13.1.11 Report and Invoicing

The Contractor(s) must maintain all records in compliance with federal and state regulations. The Contractor(s) must submit to each program administrator, monthly statistical reports and an annual tabulated report

The Contractor(s) must invoice each County department using the final contract separately. Invoices for all users of the contract must meet County requirements, unless otherwise indicated. The Contractor(s) must send each department an itemized monthly invoice (or as agreed to between the parties), which must include the information listed below:

- A. Employee name:
- B. The name of the County department;
- C. Date of services
- D. The type of services; and,
- The itemized cost for each item/service.

County departments must receive monthly invoices by the 10th of each month following the month the Contractor provided the service. In addition, the Contractor will provide each County department a monthly and year-to-date utilization report which lists all information shown above in paragraph 30.2, A-E. The Contractor will mail the invoices and the utilization reports to the individuals identified in the final contract.

13.1.12 Americans with Disabilities Act Requirements

Fairfax County Government is fully committed to the Americans with Disabilities Act (ADA) which guarantees non-discrimination and equal access for persons with disabilities in employment, public accommodations, transportation, and all County programs, activities and services. Fairfax County government contractors, subcontractors, vendors, and/or suppliers are subject to this ADA policy. All individuals having any County contractual agreement must make the same commitment.

Your acceptance of this contract acknowledges your commitment and compliance with ADA.

13.1.13 News Release by Vendor

As a matter of policy, the County does not endorse the products or services of a contractor. News releases concerning any resultant contract from this solicitation will not be made by a contractor without the prior written approval of the County. All proposed news releases will be routed to the Purchasing Agent for review and approval.

13.1.14 Use of Contract by Other Political Jurisdictions

Extension of Contract: Offerors are advised that all resultant contracts will be extended, with the authorization of the Offeror, to Metropolitan Washington Council of Governments member jurisdictions and other Jurisdictions and Political Subdivisions of the Commonwealth of Virginia to permit their ordering of services/supplies at the prices and terms of the resulting contract. If any other jurisdiction decides to use the final contract, the Contractor(s) must deal directly with that jurisdiction or political subdivision concerning the placement of orders, issuance of purchase orders, contractual disputes, invoicing and payment. The County of Fairfax acts only as the "Contracting Agent" for these jurisdictions and political subdivisions. Failure to extend a contract to any jurisdiction will have no effect on consideration of your offer. (Reference Appendix B)

It is the awarded vendor's responsibility to notify the jurisdictions and political subdivisions of the availability of the contract(s).

Each participating jurisdiction and political subdivision has the option of executing a separate contract with the awardee. Contracts entered into with them may contain general terms and conditions unique to those jurisdictions and political subdivisions covering minority participation, non-discrimination, etc. If, when preparing such a contract, the general terms and conditions of a jurisdiction are unacceptable to the awardee, the awardee may withdraw its extension of the award to that jurisdiction.

Fairfax County **shall not** be held liable for any costs or damages incurred by another jurisdiction as a result of any award extended to that jurisdiction or political subdivision by the awardee.